

REMARKS

The Official Action mailed September 23, 2001, has been received and its contents carefully noted. This response is filed within three months of the mailing date of the Official Action and therefore is believed to be timely without extension of time. Accordingly, the Applicants respectfully submit that this response is being timely filed.

The Applicants note with appreciation the consideration of the Information Disclosure Statements filed on March 24, 2000, September 5, 2001, November 30, 2001, July 18, 2002, February 24, 2003, and March 17, 2003. However, the Applicants have not received acknowledgment of the Information Disclosure Statement filed on December 19, 2000. The Official Action indicates that there "doesn't seem to be any paper at all with that date in the IFW images of the file available to the examiner" (page 2, Paper No. 09202004). As a courtesy to the Examiner, the Applicants have attached a copy of the Information Disclosure Statement filed December 19, 2000. It is noted that the Applicants are merely resubmitting the above-referenced Information Disclosure Statement as a courtesy to the Examiner. It is respectfully submitted that the above-referenced Information Disclosure Statement was properly and timely filed on December 19, 2000, and should be accorded their filing date for the purposes of consideration and compliance with 37 CFR 1.97 and 1.98. If there are any particular references that cannot be located by the Examiner in the application file or in IFW, the Applicants request that such references be identified in a subsequent communication. The Applicants respectfully request that the Examiner provide an initialed copy of the Form PTO-1449 evidencing consideration of the above-referenced Information Disclosure Statement.

Also, a further Information Disclosure Statement was filed November 30, 2004. The Applicants respectfully request that the Examiner provide an initialed copy of the Form PTO-1449 evidencing consideration of the above-referenced Information Disclosure Statement.

A further Information Disclosure Statement is submitted herewith and consideration of this Information Disclosure Statement is respectfully requested.

Claims 2-13, 15-27 and 29-42 are pending in the present application, of which claims 2, 7, 15, 21, 29 and 35 are independent. The independent claims have been amended to better recite the features of the present invention, and dependent claim 42 has been amended to correct a minor typographical error. For the reasons set forth in detail below, all claims are believed to be in condition for allowance. Favorable reconsideration is requested.

The Official Action rejects claims 2-13, 15-27 and 29-42 as obvious based on the combination of U.S. Patent No. 5,210,050 to Yamazaki et al., U.S. Patent No. 4,140,548 to Zimmer, U.S. Patent No. 5,488,000 to Zhang et al., U.S. Patent No. 5,372,860 to Fehlner et al., U.S. Patent No. 5,365,080 to Yamazaki et al., U.S. Patent No. 5,313,076 to Yamazaki et al., and U.S. Patent No. 5,913,111 to Kataoka et al. Please note, regarding Zhang, although the Official Action makes reference to U.S. Patent No. 5,388,000 (to Bartenbach), it appears that the Official Action is referring to U.S. Patent No. 5,488,000 to Zhang et al. The Applicants respectfully submit that a *prima facie* case of obviousness cannot be maintained against the independent claims of the present application, as amended.

As stated in MPEP §§ 2142-2143.01, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in

the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

The prior art, either alone or in combination, does not teach or suggest all the features of the independent claims, as amended. Independent claims 2, 7, 15, 21, 29 and 35 have been amended to recite a (crystalline) semiconductor film comprising a source region, a drain region, and a channel region between the source and drain regions, where the source and drain regions are formed throughout thickness of the (crystalline) semiconductor film. Yamazaki '050, Zimmer, Zhang, Fehlner, Yamazaki '080, Yamazaki '076 and Kataoka, either alone or in combination, do not teach or suggest at least the above-referenced features of the present invention.

Since Yamazaki '050, Zimmer, Zhang, Fehlner, Yamazaki '080, Yamazaki '076 and Kataoka do not teach or suggest all the claim limitations, a *prima facie* case of obviousness cannot be maintained.

Furthermore, there is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify Yamazaki '050, Zimmer, Zhang, Fehlner, Yamazaki '080, Yamazaki '076 and Kataoka or to combine reference teachings to achieve the claimed invention. MPEP § 2142 states that the examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. It is respectfully submitted that the Official Action has failed to carry this burden. While the Official Action relies on various teachings of the cited prior art to disclose aspects of the claimed invention and asserts that these aspects could be used together, it is submitted that the Official Action does not adequately set forth why one of skill in the art would combine the references to achieve the features of the present invention.

The Official Action implicitly concedes that Yamazaki '050 does not teach or suggest a double layer gate insulator, with one layer of thermal oxide and one layer of deposited oxide (page 2, Paper No. 09202004, and, in detail, page 2, Paper No. 11). The Official Action relies on Zimmer to allegedly teach the features missing from Yamazaki '050 and asserts that "[it] would have been obvious to include such a double layer oxide in the device of the '050 patent, to form a highly coherent, defect-free gate oxide as taught by Zimmer" (page 2, Paper No. 11). The Applicants respectfully disagree and traverse the above assertions in the Official Action.

Each of the independent claims of the present application recite a thin film transistor. However, Zimmer is directed to a MOS device, and Zimmer does not teach or suggest a thin film transistor, or a (crystalline) semiconductor film comprising a source region, a drain region, and a channel region between the source and drain regions, where the source and drain regions are formed throughout thickness of the (crystalline) semiconductor film. It is unclear how or why one of ordinary skill in the art would have been motivated to apply the features of a MOS device to a TFT. Zhang, Fehlner, Yamazaki '080, Yamazaki '076 and Kataoka do not cure the deficiencies in Yamazaki '050 and Zimmer. Namely, Zhang, Fehlner, Yamazaki '080, Yamazaki '076 and Kataoka do not teach or suggest that it would have been obvious to apply the features of a MOS device to a TFT.

In the present application, it is respectfully submitted that the prior art of record, alone or in combination, does not expressly or impliedly suggest the claimed invention and the Official Action has not presented a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.

For the reasons stated above, the Official Action has not formed a proper *prima facie* case of obviousness. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a) are in order and respectfully requested.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,



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